1: Bioorg Med Chem Lett. 2004 Jun 7;14(11):2927-30.

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ELSEVIER FULL-TEXT ARTICLE

Synthesis and DNA binding properties of dioxime-peptide nucleic acids.

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Peptide nucleic acids (PNAs) C- or N-modified with dioxime ligands were prepared by solid-phase synthesis using iron(II)-clathrochelates as protected dioxime building blocks. These PNA bind complementary DNA sequence specifically, though with much reduced affinity in comparison with nonmodified PNA. The dioxime-PNA conjugates bind Cu2+ and Ni2+ at microM concentration.

PMID: 15125961 [PubMed - indexed for MEDLINE]

1: Bioorg Med Chem. 1998 Mar;6(3):315-22.

ELSEVIER FULL-TEXT ARTICLE

Synthesis and hybridization properties of an acyclic achiral phosphonate DNA analogue.

Kehler J, Henriksen U, Vejbjerg H, Dahl O.

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Protected N-(2-hydroxyethyl)-N-(nucleobase-acetyl) aminomethanephosphonic+ ++ acid (6a-d) of all four DNA nucleobases have been prepared and oligomerized by solid-phase synthesis. Four DNA decamers containing 1-10 of these 'PPNA' monomers were prepared and evaluated by Tm measurements (medium salt) for binding to their DNA and RNA complements. One central modification reduced the binding strongly (delta Tm = -10 degrees C), but contiguous PPNA monomers gave smaller effects, and the all-PPNA decamer bound to RNA with a delta Tm of -1.2 degrees C per modification. Thus PPNA oligomers are inferior DNA and RNA binders compared to the closely related and strongly binding PNA oligomers.

PMID: 9568285 [PubMed - indexed for MEDLINE]